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Adolescent Development and Psychopathology

In a myriad of forms, adolescence is a significant developmental transition that can be recognized in all cultures and whose evolutionary roots have been clearly described in systematic studies of nonhuman primates.[1] In less-developed societies and under conditions of deprivation, adolescence may be very short. Regardless of how brief the duration of adolescence, most cultures take note of achievement of pubertal status and certify the acquisition of skills and knowledge that endorse entry into adulthood.

The long adolescence that characterizes contemporary Western society is a product of influences that have acted to extend adolescence at both ends. Biological effects which have led to a secular trend toward the onset of puberty at an increasingly earlier age. Tanner[2] has reported a trend for the lowering of the age of menarche by 4 months per decade. The average age of menarche in 1860 was 16.5 years, and the average age today for comparable populations is 12.5 years. This trend has generally been attributed to better nutrition, in particular, a diet higher in protein and calories in early infancy. The overall improvement of health and lessening of debilitating childhood disease has probably also contributed.[3] Undoubtedly there are other as yet unelucidated factors that play a role in hastening the biological changes that mark the beginning of adolescence. In males, comparable events of puberty show a lag of roughly 2 years, but it is assumed that the same secular trend is also present.

The termination of adolescence is characterized by a change in social status. The induction into adult social roles has shown a clear trend toward increasingly older ages in Western industrial society. A common definition of the endpoint of adolescence is the achievement of an adult work role. Ideally, in addition to earning a living, this will include the pursuit of a goal in which talents are used, interests are focused, and a sense of competence is established. This commitment to work generally occurs in a context of autonomy and renegotiation of the relationship to the nuclear family.

The often expressed view that adolescence is a recent cultural invention of the Industrial Revolution devised to keep young persons out of the labor market has a credible element for industrial societies, but even for them it is a highly insufficient explanation. Newer knowledge in the biobehavioral sciences underscores the importance of taking into account genetics, physiology, sociocultural, and ecologic factors. A biopsychosocial perspective helps broaden our understanding of normal adolescent development and also serves to give new bases for comprehending the problem behaviors of contemporary youth in modern industrial societies.

Starting in the late 1960s the aggregated forces of social change began to have a strong and visible societal impact in the United States. Adolescents' responses have reflected and amplified significant developments, such as changes in the traditional roles of women, dramatic increase in working women, legalization of abortion, more permissiveness and media emphasis on sexuality, rise in divorce and widespread recreational use of mind-altering drugs. There is little doubt that our traditional understanding of adolescence needs to

be modified in the light of these enduring social changes. A resurgence of research interest in adolescence has occurred in the past decade, but a far greater knowledge base is needed to find the developmental schemas that fit the current and future generations of adolescents.

There are many indicators that in the 1980s in the United States, we are experiencing problems in meeting the needs of our youth. One of these indicators is the rising mortality rate for the 12- to 24-year age-group at a time when mortality figures for all other groups are dropping. The three leading causes of death at a young age are accidents, homicide, and suicide. Adolescent morbidity shows similar effects, as reflected in rising rates of adolescent pregnancy, school drop-out, and abuse of drugs and alcohol. It is very disturbing to find that for most of these problems, it is among the early adolescents (aged 11 to 15 years) that the rates are rising most rapidly.[3]

Historical Perspectives on Adolescence

A very early and, at one time, definitive description of adolescence was given in the two-volume work of G. Stanley Hall in 1904.[4] Basically, he defined adolescence in biological terms as the period spanning the time from the changes of puberty to full adult physical growth. Hall also heavily emphasized the inevitability of storm and stress during adolescence and perceived this turbulence as a function of instinctive behaviors. These strongly biological notions were never appealing to his colleagues and when coupled with his own version of social Darwinism, Hall's views soon fell into professional neglect. It is notable that even as early as 1928 in the preface to a standard textbook on the psychology of the adolescent, Hall's work was dismissed by saying, in effect, that it would seem to be of historic value primarily, rather than of scientific or practical value today.[5] Nonetheless, the legacy of this view persists.

Psychoanalysts such as Anna Freud,[6] Mohr and Despres,[7] and Blos[8] have independently affirmed adolescent regression, psychological upheaval, and turbulence as intrinsic to normal adolescent development. The biological changes of puberty are seen as activating intense sexual drives in which the unresolved earlier conflicts are reawakened and must be resolved by the adolescent to achieve independence from parents and to make commitments to more mature love objects. For them, it is implicit that the experience of turmoil is part of the adolescent growth experience and that its absence is cause for concern. It has also been widely assumed that such "normal" turbulence will be harmlessly outgrown. These views will be examined.

Erikson[9] elaborated the classic psychoanalytic views, shifting the emphasis away from the biological imperatives of the entry into adolescence and focusing on the psychological challenges that confront the adolescent in making the transition from adolescence to adulthood. In doing so, he focused on the consolidation of the ego identity and, in essence, laid out the tasks of the late adolescent. He also expanded the developmental model to a life span perspective in which adolescence was seen not only as being on a continuum with the prior experiences in infancy and childhood but also as a critical period that would influence subsequent development. He identified eight developmental stages:

1. Infancy
2. Early childhood
3. Preschool
4. School age
5. Adolescence
6. Young adulthood
7. Adulthood
8. Senescence

His stage theory postulated that healthy development depends on the successful negotiation of each successive stage.

Piaget[10] proposed a stage theory of cognitive development. In his schema there are four major stages in intellectual development:

1. The sensorimotor stage from birth to 18 months
2. The preoperational stage from 18 months to 7 years
3. The stage of concrete operations from 7 to 12 years
4. The stage of formal operations from 12 years through adulthood.

The adolescent therefore is seen as having greatly enhanced mental ability that is characterized by the capacity for abstract thought, introspection, and the ability to analyze hypothetical statements. Acquisition of mature cognitions and adult intellectual functioning is a powerful asset in coping with developmental challenges and tasks.

Stages of Adolescence

The earlier literature treated adolescence as a single developmental stage. Only recently has there begun to be an effort to look at adolescence in a truly differentiated way. There has been a relatively recent reappraisal of the prevailing concept of a homogeneous "subculture" of adolescence.

There is every reason to believe that the total adolescent period can be divided into three distinct eras that have their characteristic tasks, challenges, and coping possibilities. With the insidious lengthening of the adolescent period, we have now arrived at a situation in which there are two largely nonoverlapping critical developmental periods in the transition from childhood to adulthood. The contemporary length of the adolescent era has, in fact, led to a situation in which the middle period between early and late adolescence has become a third developmental stage of adolescence in its own right. Early adolescence is an era that has suffered relative neglect. A review of the literature reveals that most current discussions deal predominantly with the cultural impacts on the late adolescent, post high school, as he consolidates identity and is being socialized into adult roles. Until very recently, the literature was further skewed in that it tended to deal chiefly with males.

Tasks of trying to marshal data, sort out significant issues, and evaluate the results of therapeutic interventions have been complicated by semantic confusion. In the field of adolescence there is little consensus on the meaning of commonly used terms. The need is great for definitional clarity and a set of standard reference terms. The terms in current use derive from three sources: (1) biological changes of puberty, (2) constructs derived from psychoanalysis, and (3) terms derived from sociocultural perspectives on adolescence.

In industrial nations persons are age-graded according to date of birth. Many significant social milestones depend on this *chronologic age*, such as the age at school entry, eligibility for military service, age at obtaining driver's license, drinking age, and voting age. There are, however, two other metrics for recording age.

Changes of puberty represent *biological age*. As will be discussed, there is a wide range in the normative ages at which adolescents undergo the biological changes of puberty. There is also a gender difference. Females typically are 1 to 2 years ahead of males in normal pubertal change.

There is also *social age*. These are the ages at which certain societal milestones are achieved and for which there are social norms. These would include age at first marriage, age at birth of first child, age of adopting adult work roles, age of retirement, and so on. When societal norms for these events are violated by being "off-time," too early or too late, there are social costs. An example is teenage pregnancy.

For most individuals these three age markers are synchronized throughout the life span. However, during a lengthy adolescence, there are many possibilities for asynchrony, and when it occurs there is usually stress and, at times, psychopathology.

BIOLOGICAL STAGES

The onset of menses is a dramatic event in the biology of pubertal change in girls. Therefore, *premenarche* and *postmenarche* are widely used as reference terms for females. No comparable referent exists for males. Tanner[2] has detailed bodily changes of puberty for both males and females and specified five stages that encompass the full range of changes from stage 1, prepuberty, in which there is no observable change, to stage 5, in which there is complete acquisition of adult genital and secondary sex characteristics. On this Tanner scale, menarche is a relatively late event and occurs predominantly in stage 4. In the contemporary United States the modal age at menarche is 12.5. In general, comparable Tanner stages for males lag 1 to 2 years behind those for females. The Tanner stages give a highly useful and practical way to ascertain the biological "age" or maturational status of a young person. Also, they can provide a stable reference point for differing terminologies of adolescence. A brief summary of the Tanner stages is shown in Table 1.[11]

PSYCHOANALYTIC STAGES OF ADOLESCENCE

In classic psychoanalytic theory, adolescence was seen as a unitary, "genital" stage of development in which the biologic changes of puberty bring the latency period to an end by reawakening the conflicts of infantile and early childhood sexuality. In later revisions, psychoanalysts postulated that there are phase-specific differentiations in the adolescent renegotiations of these early conflicts. In 1967, Kestenberg[12–14] introduced terminology that

TABLE 1. Sex Maturity Ratings

Boys				Girls		
STAGE	PUBIC HAIR	PENIS	TESTES	STAGE	PUBIC HAIR	BREASTS
1	None	Preadolescent	Preadolescent	1	Preadolescent	Preadolescent
2	Scanty, long, slightly pigmented	Slight enlargement	Enlarged scrotum, pink, texture altered	2	Sparse, lightly pigmented, straight, medial border of labia	Breast and papilla elevated as small mound; areolar diameter increased
3	Darker, starts to curl, small amount	Penis longer	Larger	3	Darker, beginning to curl, increased amount	Breast and areola enlarged, no contour separation
4	Resembles adult type, but less in quantity; coarse, curly	Larger; glans and breadth increase in size	Larger, scrotum dark	4	Coarse, curly, abundant, but amount less than in adult	Areola and papilla form secondary mound
5	Adult distribution, spread to medial surface of thighs	Adult	Adult	5	Adult feminine triangle, spread to medial surface of thighs	Mature; nipple projects, areola part of general breast contour

(Adapted from Tanner JM: Growth at Adolescence, 2nd ed. Oxford, England; Blackwell Scientific Publications, 1962)

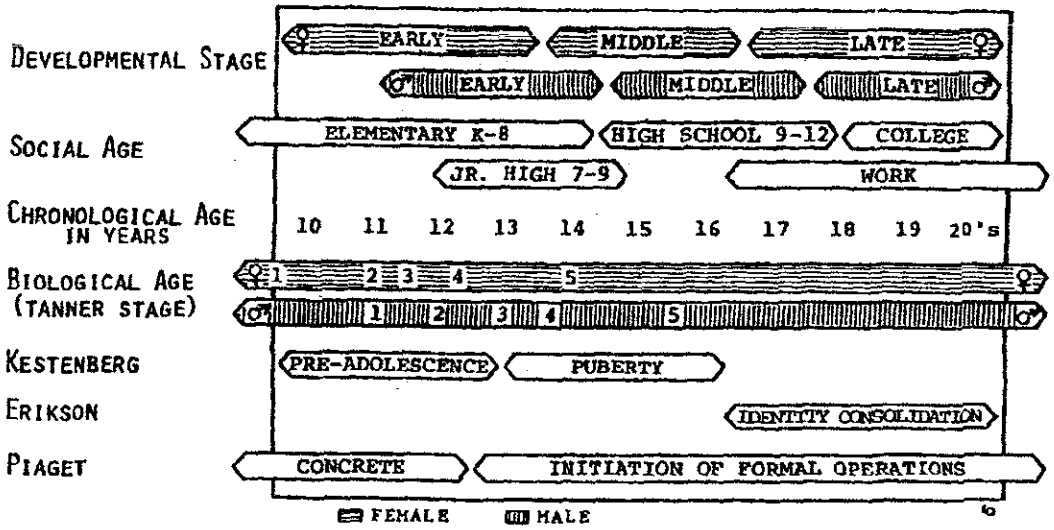

FIG. 1. Stages of adolescence.

is widely used in psychoanalytic writings in which she delineated the following phases of adolescence:

1. Prepuberty (preadolescence). This is the period of adolescent intrapsychic turmoil and regression linked with the biologic changes of activation of endocrine changes and initiation of early changes in secondary sex characteristics. Biologically, this would correspond to Tanner stage 2; however, it should be noted that the terms *prepuberty* and *preadolescence* are used by Tanner for stage 1 when no psychosocial or biological changes have occurred. This is major source of semantic and some conceptual confusion.
2. Puberty. This is the stage of adolescence that begins with maturation of the gonads (mature spermatozoa and ovulation) and is associated with growth, consolidation, and the reintegration of the legacy of infantile erotism and oedipal conflicts. This would correspond to Tanner stage 5.

In a still more recent revision, Frank and Cohen[15] have proposed a further differentiation into the following schema: *Preadolescence* is defined as the phase of psychological adjustment leading up to and during the earliest pubertal change. This would correspond to Tanner stage 1 (with chronologic ages for males 11 to 13 years and for females 10 to 12 years). Puberty is divided into (1) early puberty (Tanner stage 2), (2) mid puberty (Tanner stage 2½ to 3), and (3) late puberty (Tanner stage 4) (Fig. 1). These authors note that there are better correlations of pubertal behavior changes with Tanner stages than with chronologic age. They also note the semantic problems with the use of the term *preadolescence.*

DEVELOPMENTAL PHASES OF ADOLESCENCE

In the child development literature and the general psychiatric literature there is a growing tendency to use the terminology of *early, middle,* and *late* adolescence to describe phase differentiation in adolescence.

Early Adolescence

Early adolescence is probably the most stressful of all developmental transitions. It is generally acknowledged that within the years from 11 to 15 a period of rapid and drastic biological change will be experienced. Tanner[16] has stated, "admittedly, during fetal life and the first year or two thereafter birth, developments occurred still faster . . . but the subject was not the fascinated, charmed or horrified spectator that watches the developments or lack of developments of adolescence."

There is a cultural consensus that early adolescence be defined in terms of the social age of entry

into junior high school.[17] In general, this would include the chronologic ages of 12 to 15 years.

It can encompass the full range of Tanner stages. One of the striking aspects of a junior high school population is the wide diversity in the pubertal development of the students.

Biological tasks of early adolescence are preeminent. It is certainly true that the dominant themes of early adolescence are related to the endocrine changes of puberty. However, these changes transcend the changes in secondary sex characteristics or libido. There are biological changes in virtually every system of the body, including height, facial contours, fat distribution, muscular development, mood changes, and energy levels. These changes are of striking importance and function powerfully and independently in shaping the course of adolescent development. Also the timing and rate of pubertal change has powerful impacts. The age at onset of puberty shows wide variation among normal children.

Some children have not yet begun any pubertal change at an age at which their peers have entirely completed all of the pubertal events. Jones[18] and associates have done long-term investigation of the differing impacts and varying outcomes of early versus late maturity in boys and girls. Others have shown significant interactional effects when school contexts and social class were studied in relation to timing of puberty and maturational stage.

The classic studies of Jones[18] revealed that systematic comparisons between the behavior and personality characteristics of early- and late-maturing adolescents have indicated that early maturity tends to carry distinct advantages for boys but disadvantages for girls. In junior high school settings, early-maturing girls experience specific stresses due to their attractiveness to the older boys.

In early adolescence early-maturing boys are given more leadership roles, are more popular, excel in athletic ability, were perceived as more attractive by adults and peers, and enjoyed considerably enhanced heterosexual status. When studied at 17 years of age,[19] the early maturing boys showed more self-confidence and less dependency and were more capable of playing an adult role in interpersonal relations.

Late-maturing boys showed more personal and social maladjustment at all stages of adolescence. When studied on follow-up at age 17, the subjects showed negative self-concepts, prolonged dependency needs, rebellious attitudes toward parents, strong affiliation needs, and profound feelings of rejection by the group. Interestingly, the groups did not differ in needs for achievement and recognition.

With girls, a different and much more complex pattern emerged when Tobin-Richards[20] examined the relationships between the timing of puberty and the perceptions of self. Those girls who are in mid development or perceive themselves to be "on time" in their physical maturation feel more attractive and more positive about their bodies than those who are either early or late. However, those girls who are late or perceive themselves as behind schedule still have a more positive body image than those who are maturing early. The only individual component of pubertal development that is inconsistent with this pattern is breast development. Those girls with more breast development tend to feel more attractive regardless of timing. Weight is an additional variable that contributes significantly to positive body image and self-esteem in girls. Being of average weight is most valued, and being thin is second best. All of these factors are important variables that occur not only in a peer context but also in a family context, and there is reason to believe that a positive view of pubertal changes, regardless of age, is enhanced by families with greater acceptance of the reality of sexuality and physical maturation. A specific indication of this as reported by Brooks-Gunn and Ruble[21] is the decreased severity of menstrual symptoms reported by girls in families in which the father is informed of his daughter's menarche. It also underscores the understudied, but important role of the father as a determinant of the self-perceptions and the development of feminine identity in adolescent girls.

Psychosocial tasks of early adolescence have been a neglected area. Early adolescence is a time of sharpest possible discontinuity with the past. There are two major psychosocial challenges that confront early adolescents: (1) the transition from elementary to junior high school and (2) the shift in role status from child to adolescent. The fact that these major life changes are superimposed on the profound biological changes of puberty amplifies the stressful impact. At this time of demand for totally new sets of behaviors and novel coping responses, we know very little about the vulnerabilities, assets, or important factors that determine the success or failure of the early adolescent transition.

The few studies that have been done underscore the distinctiveness of this period and point to the need for additional research in a number of areas. The diversity of the needed knowledge can be illustrated by the following examples.

Prior to puberty, boys far outnumber girls in all types of psychopathology. Male rates of psychopathology do not diminish, but a steep upsurge in the emotional and psychiatric problems experienced by girls occurs in early adolescence. Much of this pathology is quite specific to young women (*e.g.*, eating disorders such as anorexia and bulemia). At the same time, early adolescent girls are also showing a "catch-up" to male rates in the problem behavior areas (*e.g.*, alcohol and drug abuse, delinquency). None of this is understood. Until very recently most definitive developmental studies of early adolescence have been limited to males.

Existing studies reveal that, despite widespread belief to the contrary, early adolescents are still in a stage of concrete-operational thinking and most are not capable of the abstract thinking that characterizes older adolescents and adults. Much needs to be known about the specifics of their cognitive styles and information processing. Ideally, these cognitive studies should be linked with studies of brain maturation during the course of pubertal change.

Cognitive abilities have great bearing on ways in which early adolescents respond to information and persuasion and how they make critical decisions in their lives. In making the transition into early adolescence the young person confronts crucial, emotionally charged decisions about all spheres of functioning (*e.g.*, who to seek out and how to make friends in the larger social milieu of junior high school; what to do about pressures or temptations to experiment with smoking, alcohol, drugs, or sex). As already indicated, reasoning is likely to still be mainly in terms of concrete operations. Even when formal reasoning has begun to develop it may not be evident in the critical decisions. A useful distinction has been made between "hot" and "cold" cognitions. Hot cognitions are those that are highly charged with emotion and are involved in matters of perceived threat or in situations in which cherished goals or values are in conflict or jeopardy. It has been shown that at all levels of intelligence and at the highest adult levels of formal reasoning, information processing and decision making are greatly impaired when dealing with "hot" cognitions.[22] Early adolescents not only have immature cognitive levels but also confront a great many "hot" cognitions. They do show the typical impairments such as narrowing the range of perceived alternatives, overlooking long-term consequences, and distorting expected outcomes. They also show, in exaggerated form, the heightened tendency to come to quick decision closure, by an uncritical acceptance of peer advice, popular slogans for action, or submissive obedience to a "rule" of family or religion.

Traditionally, autonomy in adolescence has been described as attaining independence of or rebelling against parents. It would be better described as the achievement of mature interdependent relationships. Most early adolescents who are 11 to 15 years of age will continue to live at home for many more years. Therefore, for them this issue is not linked to a life change and need to live independently. The actual task is to renegotiate the terms of the relationship with the parents. The relative ease or difficulty in moving away from childish dependence to more responsible status depends on parental provision of realistic, age-graded opportunities for independent functioning in a context of firm parental guidance. Even in the best of circumstances, limit setting in early adolescence is a major source of strife, particularly as the early adolescent vacillates between irresponsible childishness and unexpectedly mature behavior.

Young adolescents who lack parental availability and support as a coping resource more urgently need to turn to peers for major support and to adopt peer badges of conformity. Uncritical allegiance to the peer group is useful in allaying immediate anxiety. However, at best, the peer group at this stage is usually too shallow and rigid to afford all of the necessary resources for growth and development. When a peer group is organized around drug or acting out behaviors there is potential for considerable damage.

In summary, there is a dominant theme of pubertal change in early adolescence. There is preoccupation with body image, with deep concerns about the normality, attractiveness, and vulnerability of the changing body. Superimposed are the challenges of entry into the new social world of the junior high school that pose new academic and personal challenges, especially regarding friendships. Entry into junior high school also marks the transition to adolescent role status. The early adolescents begin to search for new behaviors, values, and reference persons and to renegotiate relationships with parents. At this time they are particularly receptive to new ideas and risk taking. Cognitive maturity has not yet been attained. Early adolescence is a time of sharpest possible discontinuity with the past at a time of limited coping skills and consequent high vulnerability. There is also the potential for much growth.

Middle Adolescence

The experience of high school coincides with middle adolescence and generally encompasses the ages 15 to 17. A great many of the young persons will have achieved Tanner stage 5 during early adolescence. Those who have not will do so by the end of middle adolescence.

The adaptations are smoother in high school, not only because the tasks are less new and challenging but also because the coping assets within the individuals are greater at that time due to maturational and learning effects. By the time of high school, pubertal changes are completed and full cognitive development has been achieved. This makes new dimensions possible in dealing with intrapsychic and psychosocial as well as intellectual tasks. The middle adolescents are capable of generalizations, abstract thinking, and useful introspections that can be linked to experience. As a result, there is less response simply to the novel, exotic, or contradictory aspects of the environment and a more differentiated sophisticated approach to their milieu is possible.

The middle adolescent is coming to terms with the aspects of identity that pertain to body image. The anxious bodily preoccupations of early adolescence have greatly diminished, although there is often a residual, persistent self-consciousness.

Middle adolescents are moving beyond the desperate eagerness for a sense of belonging that motivated the early adolescents in peer relations. As a result, the power of peer pressure is lessened and more differentiated judgments can now be exercised in seeking and establishing close friendship ties.

The aspects of identity that pertain to the self as a social person become ascendant. Peer relations are of great significance in defining the self. Through peers there is learning about one's social attractiveness, comparative competence in a number of spheres, range of interests, and values. Peers also serve as models, foils, and teachers of coping strategies. Peer relations among same-sex friends may be of great significance in all of these spheres. However, it is also a time for heightened development of heterosexual interests and, for an increasing number of adolescents, this will involve sexual experimentation.

The provacative rebelliousness of the early adolescent is no longer prominent, but there is a continuing process of achieving distinctiveness from parents and increasing real responsibility for one's own behavior.

The middle adolescent is beginning to orient more to the larger society and to learn about and to question the workings of society, politics, and government. The issues may not be fully grasped, but opinions often are strongly held and, at times, their newly found insights are discouraging and, in the extreme, lead to alienation.

Late Adolescence

This phase of transition to adulthood encompasses the final year of high school and the early years of college or its alternative. The ages represented are 17 years through the early 20s. This is the phase that has been so well described for males by Erikson.[9] The individual often must literally cope with moving out of the family home and establishing an autonomous basis for living.

It represents a definitive working through of the recurrent themes of body image, autonomy, achievement, intimacy, and sense of self that, when integrated, come to embody the sense of identity. In late adolescence these challenges can be met with maximal physical and intellectual maturity and can build on the learning experiences of prior periods.

Although there may not be a work commitment, it is a time of thoughtful educational and vocational choices that will lead to eventual economic viability. The newly achieved independence should not mean estrangement but rather a new level of adult–adult relationship that is based on more equality and mutual respect. This generally involves a more realistic appraisal of the family with an acceptance of shortcomings and an appreciation of assets. The challenge of intimacy and the establishment of a stable, mature, committed intimate relationship is as critical challenge. Mutuality and the ability to relate tenderly and with trust are issues of importance in this task. Clearly, the endpoint of adolescence is a complex matter with more than one adult role to be negotiated. There are varied adult rights and responsibilities that have no regular pattern. This ambiguity about admission into adult roles and consequent termination of adolescence is often experienced as a stress in its own right.

Adolescent Turmoil

In reviewing the recent data on adolescent turmoil, it is noteworthy that there is a consistent finding in large survey studies of adolescents of far less turbu-

lence than more theoretically oriented sources and clinical case studies would lead one to expect. It now seems likely that the bulk of psychiatric literature may represent a sampling effect that has tended to exaggerate the disturbance.

It should also be noted that, typically, the surveys have been studies of public senior high school populations who, in general, represent the middle adolescent period. The relative calm of this high school era has been discussed previously.

The survey material has, by design, tended to include all strata of the population in representative numbers. This means that the middle classes, upper-lower through lower-middle, contribute by far the largest number of students. In contrast, the most disadvantaged and the most affluent social classes have disproportionately influenced the psychiatric literature on adolescence. The bulk of students in the survey studies represent nonprofessional "white collar" and "blue collar" families who are modestly affluent and traditional in their orientation. They and their children tend to expect a continuity of generations in terms of values and occupational niches. There is mutual expectation of conformity or very little early striving toward autonomy. By and large, these individuals live in stable communities and the children respect and wish to emulate their parents. Religious values and affiliations tend to be stronger than in the surrounding classes. Douvan and Adelson[24] conducted an extensive interview and questionnaire study of over 3000 subjects who were representative of American secondary school students. The authors stated that there was little evidence of inner turbulence noted and that ego failure and disruption were not found.

There are also data from other types of studies. Offer's Normal Adolescent Project[25] was particularly elucidating because of its longitudinal nature. Eighty-four suburban middle-class boys selected as a representative sample of the larger group of 326 freshmen entering high school, were studied using an extensive self-report, self-image questionnaire. This panel group was followed over 4 years of high school with extensive interview, psychological testing, and self-reports in addition to parental questionnaires. After graduation annual interviews were conducted over the next 4 years for 61 of the students.

Inner unrest was seen in 21% of the study group and was categorized by Offer as "tumultuous growth." This group appears to come closest to what has been described as "adolescent turmoil" in previous psychiatric literature. "Internal turmoil" was demonstrated in reports of transient feelings of anxiety, depression, guilt, and shame. This internal turmoil was seen as an expression of a "temporary absence of inner direction" and mood swings as "a result of their active search for their own identity." Other characteristics that distinguished this group were lower socioeconomic status, overt marital conflicts, and a family history of mental illness. Thus, both genetic and environmental factors may have had an etiologic significance.

The majority of the youth, however, demonstrated either "continuous growth" (25% of group), which was described as a smooth progression even in the face of external trauma, or "surgent growth" (34% of group), which was characterized by persons who were reasonably well adjusted and who coped with the average expectable environment successfully but tended to have some temporary noticeable difficulty in coping with unexpected stresses. Neither of these two groups, which when combined composed 79% of the total study group, demonstrated distress unrelated to socioenvironmental pressures, and their overall adjustment was adaptive and successful.

The findings of the Isle of Wight epidemiologic study of mental health status of 200 randomly selected British 14- to 15-year olds initially appeared contradictory. Rutter and co-workers[26] found that almost 50% of the group reported feelings of misery during a survey interview. The interviewers also noted, however, that far fewer adolescents were actually judged to be sad during the interview itself (boys, 12.5%; girls, 14.8%). About 20% reported "often feeling miserable or depressed" on a self-administered malaise inventory. When this same population was assessed for the presence of a psychiatric disorder based on a psychiatric interview, the prevalence was 16.3%. The reported feelings of misery were most frequently unaccompanied by an associated disturbance of mood or an impairment of functioning and were assessed by the interviewer as not indicative of a psychiatric disturbance. Rutter concluded that in addition to 16.3% of the subjects with diagnosable disorders, perhaps an additional 10% of the general adolescent population do suffer from marked feelings of internal misery and self-depreciation at subclinical levels. Unfortunately, there was no long-term follow-up of Rutter's subjects so that it is not known if diagnosable mental disorders among that group appeared subsequently. This group appears to demonstrate some of the same dysphoria as Offer's "tumultuous growth" group and may, in the same way, represent "adolescent turmoil." Both studies

tend to confirm the presence of an adolescent inner turmoil that differs from a mental disorder in its scope and duration, but instead of typifying this age-group, it occurs in a small minority and remains quite distinguishable from psychiatric illness.

Prior to the publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)*, "adjustment" reaction of adolescence was the most widely used diagnosis in the adolescent outpatient population. As a vaguely defined conglomeration of symptoms seen in individuals without apparent underlying major mental disorder, this diagnosis was very much in the spirit of the notion of adolescent turmoil. This *DSM-II* diagnosis is not present in the *DSM-III*, but there is reason to believe that some psychiatrists are now using "adjustment disorder" in adolescent patients in whom a more serious mental disorder is present. In a follow-up study of the predictive value of adjustment disorders to define transient, mild disorder, Andreason and Hoenk[27] found strong support for the diagnosis when used for adults: 79% of the adults were well at a 5-year follow-up; only 57% of the adolescents were well at follow-up, with the other 43% receiving subsequent diagnoses of schizophrenia, schizoaffective disorder, major depression, bipolar disorder, antisocial personality, alcoholism, and drug use disorders. The fact that adjustment disorders with conduct symptomatology had a poorer outcome than those with depressive or anxious features confirms the more benign nature of transient feelings of misery and the pathologic implications of maladaptive behavior. The significance of this distinction has already been seen in the normative studies of Offer[25] and Rutter and co-workers.[26]

Undeniable serious disturbance in adolescence does exist, and when it does it is an indication for thorough assessment and treatment. Masterson[28] demonstrated in a 5-year follow-up study that severe adolescent disturbance was a "way station" in a long history of psychiatric illness that began in childhood and continued into adult life. Rutter, in his article, "Adolescent Turmoil: Fact or Fiction?"[26] (based largely on his Isle of Wight study), states that "it would be most unwise to assume adolescents will 'grow out' of their problems to a greater extent than do younger children." Weiner,[29] in a 10-year follow-up study of 1334 adolescent inpatients demonstrated a 54.1% diagnostic stability. He concludes that the data demonstrates "a continuity in adolescent and adult psychopathology and what appears to be an excessive use of the situational disorder in diagnosing adolescent patients."

Parents and Adolescent Children

As part of the overall reassessment of "adolescent turmoil," the relationship between the adolescent and his parents has come under particularly close scrutiny. For many clinicians, the adolescent was seen as having the choice of being either openly rebellious toward parents or pathologically submissive. Douvan and Adelson[24] conducted an interview and questionnaire study of over 3000 junior and senior high school students who were chosen as a representative sample of American teenagers in the 1950s. Their results found adolescents to be generally trusting their parents, participating in rule making at home, and deriving much of their self-esteem from parental approval. This picture was supported by Offer's study of suburban adolescent males in which "rebellious behavior" was limited to minor disagreements between parents and their early adolescent children, most aptly described as "bickering." The main function of this "rebellion" was seen as serving to initiate or reinforce a process that led to emancipation from parental control.

Rutter and co-workers[26] found that British rural youth were not particularly critical of their parents. Although about half of the 14-year olds had petty disagreements about clothes, hair, and curfews that might become "quite heated," most of the adolescents continued to share their parents basic values and to respect the needs for restrictions and controls. These kinds of disagreements, however, do speak to the increasing influence of peers in the social realm regarding relatively superficial values. The need to conform and to gain peer acceptance is also a manifestation of the need and willingness of the adolescent to define himself outside the parental sphere even if in rather superficial terms initially. Actual rebellious behavior is generally a reactive phenomenon of early adolescence when the regressive pull is greatest and the separate identity most fragile. This rebellious behavior does not usually persist far into middle adolescence. When there is continued questioning of parental values, as well as deep uncertainty about their own values, adolescents may turn heavily to introspections and/or toward peers and/or nonparental adults for some of these answers. In these instances there is continuing strain and distance in the parent–child relationship that will persist into late adolescence. When parents can remain firm in their limit setting, yet supportive of their child's moves toward inde-

pendence and accepting of his questioning of them and reassessment of their values, major disruption in the parent–child relationship does not occur. In fact, as intimacy with others is achieved and an increasing sense of autonomy is gained in late adolescence, the child, who has continued to trust his parents and their values generally will be able to move back into a more intimate relationship with his parents on a new adult–adult basis.

In recent years there has been more attention paid to an interactional model for parents and their adolescent children. It is during their children's adolescent years that parents will likely be in the midst of their own normative "mid-life crisis." To understand fully the interaction between parent and child, one must equally appreciate the individual processes of both. Characteristics of mid life include the following:

1. Life is restructured in terms of time left to live rather than time since birth.
2. There is a "life review" of one's achievements to date and a growing recognition of the limitations that age and current status may place on future achievements. With this may come a painful awareness of the youthful goals and ego ideals that will never be fulfilled.
3. This review may lead to a more passive position as the realization occurs that increased assertiveness will not significantly change the ultimate outcome.
4. Even with good health, there is awareness that vigorous physical exertion cannot be sustained except as a part of an ongoing conditioning program and minor aches and pains linger in spite of this.
5. There may be the beginning of concerns about the diminuation of cognitive functioning in relation to some perceived memory deficits.
6. One or both parents may find themselves less sexually stimulated by their spouse and less confident in their own sexual desirability.
7. The mother's impending menopause marks the end of the reproductive phase of her life, as well as the father's, within this relationship.

In dramatic contrast to the aging process being experienced by middle-aged parents, the adolescent is experiencing increased physical prowess, increased sexual potency, increased cognitive capacity, and ego aspirations not fully bound by reality and is actively engaged in making use of new capacities to gain mastery over himself and his environment. These are attributes that a middle-aged parent may find both terribly attractive and threatening. The adolescent is in the process of the deidealization of parent, which may be expressed in a whole spectrum of behaviors, from politely questioning parental positions to attacking the basic parental system of values and beliefs. In addition, an early adolescent may probe parental limits, not so much to defy them as to find out where the boundaries are, and consequently help define himself. These behaviors, all of which speak more to a need of self-definition rather than an attempt to denigrate parents, can be experienced by the parent as an attack and may lead to prolonged and mutually destructive confrontations. Clearly, if a parent has significant ambivalence toward a child, the normal adolescent testing of limits and challenging of parental values can cause its intensification, and this can become a mutually reenforcing system. Parents may also believe that this adolescent period offers them their last chance to shape their child in ways that will live out parental frustrated ambitions or at least deter the adolescent from repeating the "errors" of parents.

In spite of the conflicting demands that are placed on parents, and the pressure and uncertainty that parents of adolescents experience at times, most of the parents interviewed by Offer[25] and Rutter and co-workers[26] denied any undue discomfort during their children's adolescence and were able to participate positively in decision making around major concerns such as vocational and educational plans. Clearly, the parental influence over a child's development remains important well into adulthood, and numerous studies have demonstrated the enduring nature of the adolescent trust and respect for their parents.

Developmental Psychopathology

MOOD FLUCTUATIONS AND MISERY

The general observation that adolescents experience a greater fluctuation of mood than adults has been demonstrated rather consistently. The feelings of transient misery and sadness reported by adolescents can be explained on several bases. The Offer Self-Image Questionnaire, administered to thousands of adolescents from 1962 to 1980, showed a significant upward shift of scores of depressive mood from the 1960s to the 1970s for both boys

and girls. According to Offer,[30] in part, this worsening of mood in the general adolescent population may also represent a greater willingness by adolescents to be more open about negative feelings on self-report questionnaires.

Although relationships with parents may remain intact, the security experienced by identifying with the idealized parental image is sacrificed as the youth moves toward development of a separate identity. In this process, Redl conceptualized the adolescent's superego as a portable cassette tape recorder that is able to accommodate a variety of contradictory appearing "cassettes" or value systems depending on the social context in which the youth finds himself.[31] After the fact, the youth may experience a very guilty conscience about stealing a trivial item in a local drug store that has been fun to do as a peer group activity. He will experience even more guilt if he is caught and his parents are informed. This guilt is an honest feeling of remorse of not having lived up to one of his value systems, and he will experience this even more strongly as he is moved into his parental sphere. These feelings should be seen as distinct from regret of having been caught. Eventually, with the synthesis of these different value systems, the adolescent's behavior takes on an increasingly external and internal consistency, but until this occurs, adolescents may frequently find themselves feeling miserable about their own improprieties but then repeating them. These conflicting sets of values and transgressions followed by remorse are commonly experienced in the sexual sphere. The wide array of conflicting societal values in regard to a youth's engaging in sex becoming pregnant, having an abortion, bearing a child, or participating in homosexual behavior provides numerous opportunities for remorse. An additional factor that may draw the adolescent to a sexual relationship in spite of conflicting values is the relative emotional void produced as some distance is gained from the parent. However, introducing sexual intercourse into a relationship implies a closeness and security that may turn out to be illusory and can lead, instead to a sense of loss of love.

Among adolescents these kinds of temporary setbacks may lead to an array of behaviors that erroneously, have been termed *clinical depression*. These include a hypersensitivity and irritability, with a proneness to overreact to criticism. At times the adolescent may "tune out" temporarily and withdraw into a position of apathy and indifference. At times there is a propensity to move from a passive to an active position in response to feelings of helplessness, and the adolescent may take provacative positions that elicit a punitive response from his environment. This punishment may provide a welcome relief from an immature harsh superego. For many clinicians such behavior is summarized as adolescent turmoil.

Were these temporary feelings of misery to persist, the developmental impact would be significant, with the possible long-term consequences of an impaired self-image. This generally does not occur, and adolescents characteristically show a range of normal mood fluctuations. Rarely is there a persistent, selective dwelling on negative memories and cognitions by an unhappy youth whose perception of himself and the world are colored by his misery. What separates these adolescent miseries from serious depressive disorders is their short-term nature.

However, the steeply rising suicide rates and the high prevalence of true adolescent depression is particularly poignant and of deep concern. Reported suicides, which are probably underestimated, have nearly tripled in the past 20 years to a rate of 21 per 100,000 annually. It is estimated that there are 100 suicide attempts for every completed suicide. Surveys reveal that 8% to 10% of all adolescents report suicidal feelings. Despite the benign nature of much adolescent misery, clearly the possibility of severe or even fatal depression does exist. This highlights the importance of appropriate diagnosis and treatment of depression.

SEXUALITY AND ADOLESCENT PREGNANCY

The recent significant rise in level of sexual activity among adolescents and the trend toward increasingly younger ages of initiation is well documented. It seems unlikely that these trends can be largely attributable to earlier maturation. The secular trend toward earlier menarche has averaged 3 months per decade, resulting in an average of 12.5 years in affluent and healthy nations. In the United States, these secular declines appear to have leveled off early in this century. In any event, the sharp rises in sexual activity of adolescents have far outstripped the rates of biological changes and there has been an explosive rise in rates of sexual activity within the past 2 decades. This is exemplified in the data on sexual activity in 15-year-old girls in the United States: In 1953, Kinsey[32] reported their rate as 3%; in 1966 the rate was 6%[33]; for 1971 and 1976 Kantner and Zelnick[34] reported rates of 13.8% and 18%, respectively. Studies by the same authors[34] reveal that in 1980 by age 19,

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65% of white females and almost 89% of black females were sexually experienced.

When Presser[36] studied age at menarche, sociosexual behavior, and fertility, she found that age at menarche was not a good predictor of the timing of pregnancy or first birth. Age at first intercourse was the best predictor and this, in turn, was strongly related to first dating experience. The child-bearing rate of American adolescents is among the highest in the industrial world. There are roughly 600,000 such births each year. At a time when the overall fertility rates for adult women have sharply declined in the United States, birth rates among the very young teenagers are increasing. Because of this differential in fertility rates, births to teenage mothers now represent almost a fourth of all births. For a variety of reasons early adolescents use virtually no birth control other than abortion. Recent governmental policy that discourages and/or prevents access to abortion paid for by public funds is predicted to substantially increase births to adolescents.

Clear documentation exists as to the biological and psychosocial risk to both mother and child in adolescent pregnancy, birth, and motherhood. The obstetric complications, high rates of infant mortality, and perinatal morbidity have been well described. Similarly, there is excellent documentation for the social isolation, inadequate parenting skills, school drop-out, repeat pregnancy, and chronic poverty that characterizes these mothers. In absolute numbers, the problem of adolescent child bearing is greatest among disadvantaged black and Hispanic populations. However, the rates of teenage pregnancy are rising most rapidly among the youngest white girls (aged 15 years and under).[35] Much research and service attention continues to be directed toward gaining a better understanding of the phenomenon of teenage sexuality and motherhood in order to target effective preventive, supportive, and remedial services.

DEVELOPMENTAL ISSUES IN DRUG ABUSE

There is a continuing prevalence of marijuana use in adolescence. Some experience with marijuana has become modal behavior among high school seniors.[37] It is important to examine the significance of this drug usage to better understand the role that it has come to play in adolescent development. An additional purpose in more closely examining marijuana use is to provide a model that can be used when looking at the use of other mind-altering agents used by the youth of today. Also regular marijuana use is one of a cluster of problem behaviors that seem to have much in common and represent developmental challenges.

Clearly, if the drugs are used as a way to avoid tension, and if this is done chronically, the youth's capacity to tolerate tension and to gain in ego strength by working through stressful situations will be underdeveloped. Drugs may thus have long-term effects on important areas of ego functioning that are ordinarily developed during adolescence. A significant area of ego development in adolescents is the acquisition of interpersonal skills and the development of intimacy. Marijuana users generally report increased feelings of caring, interpersonal sensitivity, and closeness when intoxicated. However, under experimental conditions, the interpersonal skills of experienced marijuana-using adults have been observed to decrease under the influence of marijuana.[38] In turn, inadequate social competence and lack of appropriate socialization experiences may increase the likelihood of tensions that led to marijuana usage, in order to capture the feeling of caring and closeness often experienced in that situation. A negative downward spiral of decreasing social competence and increasing marijuana use may be perpetuated.

Some important biochemical effects on behavior that have developmental significance have been documented for marijuana. These are impairments in short-term memory and in ability to follow out sequential steps in a process. State-dependent learning has also been documented.[37] All of these could be of significance where marijuana is smoked during the school day. The typical adolescent usage pattern does involve smoking of marijuana at school and during the school day. By contrast, alcohol tends to be used away from school on evenings and weekends.

The problem behaviors of youth that are highly interrelated with regular marijuana use include delinquency, alcoholism, decreased school motivation and achievement, drug abuse, and teenage pregnancy. Jessor and associates[39] have suggested that engaging in problem behaviors serves important functions for individuals that include an instrumental effort to achieve otherwise unattainable goals, a learned way of coping with frustrations and anticipated failure, expression of opposition to or rejection of conventional society, negotiation for development transition to adulthood, badge of membership in a peer culture, and some combination of all of these. The problem-proneness theory postulates that personality and social-environmental variables interact to set regulatory norms for the

individual. Clusters of psychosocial variables have been studied in prospective longitudinal research and have been shown to have predictive value.

The factors can be divided into three categories: (1) personality factors, (2) social or interpersonal factors, and (3) sociocultural or environmental factors.

Personal factors include an emphasis on unconventionality, rebelliousness, high risk taking, low value on achievement, and high value on autonomy. Social or interpersonal factors include alienation from parents, high influence from peers involved in problem behaviors, and little involvement in religious activities. Sociocultural factors include low social controls, disorganized environment, and permissive values.

It had long been known that there are a host of negative attributes that are associated with marijuana use in adolescence. These attributes of nonconformity, an openness to new experiences, and a lower value on achievement were originally seen as a consequence of chronic marijuana use and were called an amotivational syndrome. The data that have emerged in longitudinal studies, such as the research of Jessor and associates[39] reveal that those adolescents who are most likely to initiate marijuana use and to use it more heavily are already less conventional, are more tolerant of deviancy, and are more likely to be involved in delinquency *prior* to any use of marijuana. Thus, marijuana use can be seen as one part of a large pattern of developmental change that both may contribute to and be influenced by marijuana use.

IMPACT OF CHRONIC ILLNESS ON DEVELOPMENT

During puberty, chronic illness of childhood is reexperienced as a distinct and significant adolescent phenomenon. With the major bodily changes of early adolescence and the concomitant preoccupation with body image, a long-term illness is reappraised and becomes a threat to body integrity and self-concept. Unfortunate consequences of this may be seen in a number of psychological and medical outcomes.

Adolescence poses developmental tasks that clash directly with the preemptive demands of chronic illness. As the young person is dealing with uncertainties about the pubertal body changes, the renewed impact of chronic illness is a sharp blow to sexual identity as well as body image. At a time when peer relations and fitting in with the crowd are paramount considerations, there are deep concerns about being different and fears about being unacceptable. During a period typically characterized by developmental urges toward independence, the stress of illness can lead to exaggerated wishes for dependence, security, and nurturance on the one hand or lead to denial and hyperindependent, rebellious, and noncompliant risk-taking behavior on the other hand. Overprotectiveness of concerned parents can aggravate any or all of these conflicts.

Chronic illness may actually delay the onset of puberty. For males, this may be experienced as an added stress. The delay accentuates the physical inadequacy. Pubertal change brings increases in stature, muscle strength, and physical prowess. When these are lacking, boys receive less peer respect and suffer loss of self-esteem. They are maturationally less competitive in sports. In addition there may be fears of injury or health damage that further inhibit athletic participation. With some illnesses these concerns may be realistic; for others, it may not.

Noncompliance to the prescribed medical regimen can become a vehicle for maladaptive coping that, at times, can reach proportions of self-destructive assertiveness, such as occurs in instances when diabetics do not take their insulin or when steroid medications are refused by patients in an attempt to avoid the unwanted drug side-effects of steroid facies and a "buffalo hump." These types of severe reactions are highly likely to occur when a chronically ill adolescent feels unusually dependent on peer approval and compelled to deny the illness that sets him apart as different. Such differences cannot usually be concealed when the illness imposes physical limitations on participation in physical education programs, requires daytime medication, or affects physical appearance.

In middle and late adolescence, the process of making commitments to more long-term relationships and vocational goals begins. The physical limitations imposed by chronic illness may have to be included in the consideration of vocational choices. There may be pressure from parents to not reveal the presence of illness to potential spouses or their families because of their own perception of their child as being "damaged goods" and, thus, undesirable. Older adolescents become capable of conceptualizing the uncertain future, the prospects for disfiguring and handicapping complications, and the likelihood of shortened life span. Distress and depression are understandably common.

Clearly, chronic illness asserts an ongoing presence that presents challenges to normal adolescent development. The capacity for human coping is

great. With understanding of the developmental issues and appropriate support and guidance from parents and physicians, most adolescents can learn effective coping strategies, gain a sense of not being alien or unacceptable, and deal constructively with their lives. For a fortunate few, not only is there adequate coping with the burden of illness but some adolescents actually gain new strengths and *make a virtue of adversity.*

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